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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/694,656	10/27/2003	Young Joon Kim	02104P	4000
27804	7590	09/23/2004	EXAMINER	
HOLLAND & BONZAGNI, P.C. 171 DWIGHT ROAD, SUITE 302 LONGMEADOW, MA 01106-1700			NASRI, JAVAID H	
			ART UNIT	PAPER NUMBER
			2839	

DATE MAILED: 09/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/694,656	<b>Applicant(s)</b> KIM ET AL.	
	<b>Examiner</b> Javaid Nasri	<b>Art Unit</b> 2839	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-34 is/are pending in the application.  
     4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 33 is/are allowed.
- 6) ☒ Claim(s) 1-15, 17-20, 23-25, 32 and 34 is/are rejected.
- 7) ☒ Claim(s) 16, 21, 22 and 26-31 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>4/20/04</u> . | 6) <input type="checkbox"/> Other: ____.  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-10, 12 and 23-25 are rejected under 35 U.S.C. 102(b) as being anticipated by Sowell, III et al (6,233,384, cited in IDS).

Sowell, III et al discloses **for claims 1, 32**, at least one optical fiber (1); a primary buffer member (15) circumferentially surrounding each optical fiber; a secondary buffer member (2) circumferentially surrounding the primary buffer member, a strength member (14) circumferentially surrounding the secondary buffer member (see note 2 below), and a dual layer jacket (10, 6) circumferentially surrounding the strength member, which comprises a heat or pressure sealed, low- shrinkage polymer film inner layer (10), and an outer protective layer (6), **for claim 2**, the primary buffer member is prepared from a material selected from the group of silicones, acrylic polymers, acrylates and polyimides, (jacketing material), **for claim 3**, the primary buffer member is prepared from a material selected from the group of acrylate functional monomers, acrylate functional oligomers, and mixtures thereof (jacketing material), **for claim 4**, the primary buffer member is prepared from a polyimide material (jacketing material), **for claim 5**, the secondary buffer member is prepared from a fluoropolymer material selected from the group of fluorinated ethylene-propylene polytetrafluoroethylene-perfluoromethylvinylether,

Art Unit: 2839

perfluoroalkoxy, polytetrafluoroethylene, ethylene-chlorotrifluoroethylene copolymers, ethylene-tetrafluoroethylene copolymers, polyvinylidene fluoride, tetrafluoroethylene-hexafluoropropylene-vinylidene fluoride, polyvinylfluoride resins, and mixtures thereof (see col. 2, lines 40-44), **for claim 6**, the secondary buffer member is prepared from a perfluoroalkoxy material (see col. 2, lines 40-44), **for claim 7**, the secondary buffer member is prepared from an ethylene-tetrafluoroethylene copolymer (see col. 2, lines 40-44), **for claim 8**, the strength member (14) comprises straight, axially extending fibers that circumferentially surround the secondary buffer member, **for claim 9**, aramid fibers, **for claim 10**, the strength member is prepared using a fiber-reinforced composite or fabric comprising aromatic polyamide fibers in a resinous matrix, **for claim 12**, the strength member is prepared using a glass fiber-reinforced composite material, **for claim 23**, the outer protective layer of the dual layer jacket is prepared using a fluoropolymer material selected from the group of polytetrafluoroethylene-perfluoromethylvinylether, perfluoroalkoxy, polytetrafluoroethylene, ethylene-chlorotrifluoroethylene copolymers, ethylene-tetrafluoroethylene copolymers, fluorinated ethylene-propylene, polyvinylidene fluoride, tetrafluoroethylene-hexafluoropropylene-vinylidene fluoride, polyvinylfluoride resins, and mixtures thereof, (common ingredients for a jacket), **for claim 24**, the fluoropolymer material is a perfluoroalkoxy fluoropolymer (common ingredient), **for claim 25**, a heat insulating and dimensionally stabilizing member (11) that is prepared from a material selected from the group of aramids, glass, polyesters and polyimides.

**Note: 1**        **“circumferentially surrounding” does not have to be physically touching. For example, trees circumferentially surrounding a house does not mean that the trees are touching the house.**

**Note: 2**        **“circumferentially surrounding” does not have to be externally. It could be internally surrounding also.**

***Claim Rejections - 35 USC § 103***

3.        The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4.        Claims 11, 13, 14, 17-19 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sowell, III et al.

Sowell, III et al discloses all the limitations of claim 1, as shown above, Sowell, III et al also discloses **for claim 17**, the sealable component is a heat-sealable adhesive selected from the group of perfluoropolymer, crosslinkable fluoropolymer, and polyimide heat-sealable adhesives, (common ingredients for an adhesive), **for claim 18**, the heat-sealable adhesive is a perfluoropolymer adhesive selected from the group of polytetrafluoroethylene, fluorinated ethylene-propylene, perfluoroalkoxy, and tetrafluoroethylene and perfluoromethylvinylether copolymer adhesives, (common ingredients for an adhesive), **for claim 19**, the heat-sealable adhesive is a crosslinkable fluoropolymer adhesive selected from the group of ethylene-tetrafluoroethylene and chlorotrifluoroethylene copolymer and terpolymer adhesives, which contain minor amounts of one or more fluorinated comonomers, (common ingredients for an adhesive), **for claim 20**, the heat-sealable adhesive is a thermoplastic polyimide adhesive, which

softens and becomes fluid at or above 200 degrees centigrade (very common temperature to become fluid),

However, Sowell, III et al does not disclose:

- a) For claim 11, strength member is prepared using a polyimide film. Official notice is taken that strength members made of a polyimide film is well known in the art, therefore, it would have been obvious to one of ordinary skill in the art, at the time of the invention for Sowell, III et al to have the strength member to be prepared using a polyimide film to have ease in manufacturing.
- b) For claim 13, the polymer film inner layer of the dual layer jacket is prepared using a fluoropolymer film. Official notice is taken that the polymer film being prepared using a fluoropolymer film is well known in the art, therefore, it would have been obvious to one of ordinary skill in the art, at the time of the invention for Sowell, III et al to have the polymer film inner layer of the dual layer jacket to be prepared using a fluoropolymer film for better sealing.
- c) For claims 14 and 15, the polymer film inner layer of the dual layer jacket is prepared using a polyimide film (aromatic polyimide film) having a sealable component coated or laminated onto at least one surface. Official notice is taken that the polymer film to be prepared using a polyimide film (aromatic polyimide film) having a sealable component is well known in the art, therefore, it would have been obvious to one of ordinary skill in

the art, at the time of the invention for Sowell, III et al to have the polymer film inner layer of the dual layer jacket to be prepared using a polyimide film (aromatic polyimide film) having a sealable component coated or laminated onto at least one surface for better sealing.

5. Claim 34 is 35 U.S.C. 103(a) as being unpatentable over Sowell, III et al.

Sowell, III et al discloses all the structural limitations of claim 34 as shown above, however, Sowell, III et al does not describe the process for preparing a fiber cable as claimed. The claimed process language is counter part of the apparatus claimed. Therefore, it would have been obvious to one ordinary skill in the art at the time the invention was made to develop a particular process for the disclosed apparatus of the cited references.

#### ***Allowable Subject Matter***

6. Claim 33 is allowed.

7. Claims 16, 21, 22 and 26-31 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

#### **REASONS FOR ALLOWANCE**

8. The following is an examiner's statement of reasons for allowance:

The reason for allowance of the claims is the inclusion of the limitation,

- a) For claim 16, none of the prior art teaches or suggest, alone or in combination the aromatic polyimide film is a polyimide copolymer film derived from the reaction

of an aromatic tetracarboxylic acid dianhydride component comprising from 0 to 95 mole % of 3,3',4,4' biphenyltetracarboxylic dianhydride and from 5 to 100 mole % of pyromellitic dianhydride, and an aromatic diamine component comprising from 25 to 99 mole % of p-phenylene diamine and from 1 to 75 mole % of a diaminodiphenyl ether, in combination with other limitations in the claim which is not found in the prior art reference of record.

- b) For claim 21, none of the prior art teaches or suggest, alone or in combination the polymer film inner layer of the dual layer jacket demonstrates a high temperature (150 degrees C) adhesive bond strength (ASTM 1876-00) ranging from about 100 to about 250 grams per inch-width, in combination with other limitations in the claim which is not found in the prior art reference of record.
- c) For claim 22, none of the prior art teaches or suggest, alone or in combination the polyimide film inner layer of the dual layer jacket demonstrates a high temperature (150 degrees C) adhesive bond strength (ASTM 1876-00) of greater than 1000 grams per inch-width, in combination with other limitations in the claim which is not found in the prior art reference of record.
- d) For claim 26, none of the prior art teaches or suggest, alone or in combination the heat insulating and dimensionally stabilizing member is formed by wrapping an aramid paper tape, in overlapping fashion, along a portion or length of the primary buffer member, in combination with other limitations in the claim which is not found in the prior art reference of record.



- e) For claim 27, none of the prior art teaches or suggest, alone or in combination the heat insulating and dimensionally stabilizing member is formed by spiral wrapping an aromatic polyamide fiber-reinforced polymer composite or fabric, which comprises helically orientated, aromatic polyamide fibers fixed in a resinous matrix, around the primary buffer member, in combination with other limitations in the claim which is not found in the prior art reference of record.
- f) For claim 28, none of the prior art teaches or suggest, alone or in combination the optical fibers are a graded- index, multi-mode optical fibers having a core diameter of approximately 62.5 micrometers and a cladding diameter of approximately 125 micrometers, and the fiber optic cable demonstrates an optical attenuation (EIA/TIA Test 5 Procedure Number 455-3A) of less than about 3.0 decibels per kilometer at 1300 nanometers, in combination with other limitations in the claim which is not found in the prior art reference of record.
- g) For claim 30, none of the prior art teaches or suggest, alone or in combination the optical fibers are a single- mode optical fibers having a core diameter of approximately 9 micrometers and a cladding diameter of approximately 125 micrometers, and the fiber optic cable demonstrates an optical attenuation (EIA/TIA Test Procedure Number 455-3A) of less than about 2.5 decibels per kilometer at 1300 nanometers, in combination with other limitations in the claim which is not found in the prior art reference of record.
- h) For claim 33, none of the prior art teaches or suggest, alone or in combination a heat insulating and dimensionally stabilizing member having twisted or helically

Art Unit: 2839

orientated, aromatic polyamide fibers spirally wrapped around the primary buffer member, in combination with other limitations in the claim which is not found in the prior art reference of record.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

#### ***Contact***

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Javaid Nasri whose telephone number is 571 272 2095. The examiner can normally be reached on Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tulsidas C. Patel can be reached on 571 272 2800 ext 39. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

**Any correspondence to this action may be mailed to:**

Art Unit: 2839

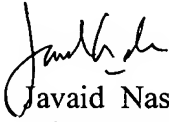
**Commissioner for Patents  
Post Office Box 1450  
Alexandria, VA 22313-1450**

For additional information regarding this new address, which was effective May 1, 2003, see  
*Correspondence with the United States Patent and Trademark Office, 68 Fed. Reg. 14332*  
(March 25, 2003).

**Or faxed to:** 703-308-7722 or 308-7724 (informal or draft communications should be clearly labeled  
“PROPOSED” or “DRAFT”)

**Hand-delivered responses should be brought to:**

**Crystal Plaza 4, Fourth Floor (receptionist)  
2201 South Clark Place, Arlington, Virginia**

  
Javaid Nasri  
Primary Examiner  
Art Unit 2839

JN  
jhn  
September 21, 2004